UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,269	09/18/2000	Johan Nilsson	040071-174	3896

21839 7590 09/30/2003

BURNS DOANE SWECKER & MATHIS L L P
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER
APPIAH, CHARLES NANA

ART UNIT	PAPER NUMBER
2682	7

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/663,269	NILSSON, JOHAN	
	Examiner	Art Unit	
	Charles Appiah	2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Paper 6, filed on July 02, 2003 with respect to the rejection(s)of claim(s) 1-22 under 35 U.S.C. 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Laakso et al. (6,603,773).

Information Disclosure Statement

The information disclosure statement filed on April 10, 2002 has been considered and made of record in the file.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 2, 5-13, and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wallentin et al. (6,154,450)** in view of **Laakso et al. (6,603,773).**

Regarding claims 1 and 12 Wallentin discloses a method and an apparatus for controlling the energy at which a transmit power control command is transmitted in a communication system including at least one base station (20), and at least one remote station (22), (see Fig. 1), comprising: determining how important it is that the transmit power control command is correctly received (determination of the SINR including the strength of the signals for all other base stations, base station comparing the Signal to interference/noise ratio to a target signal to interference/noise ratio, col. 5, lines 7-32).

Wallentin discloses an appropriate power change command being sent as indicated by the comparison result requiring a change (i.e., increase or decrease power, col. 5, lines 32-39), but fails to teach setting the energy at which a transmit power control command is sent based on a determination of how important it is that the transmit power control command is correctly received.

Laakso discloses a method for controlling the transmission power of certain parts of a radio communication transmission in which the reliability of power control information can be controlled to reach a desired level (see col. 3, lines 21-53). According to Laakso, the reliability margin is used to control the power control commands sent by all base stations involved in a micro-diversity connection and that the reliability margin can be different for different base stations (see col. 8, line 61 to col. 9, line 44, col. 11, lines 8-63).

It would therefore have been obvious to one of ordinary skill in the art to combine the transmission power control of power control commands teaching of Laakso with Wallentin's system in order to ensure that control information such as power control commands are received correctly to optimize the utilization of radio resources as taught by Laakso.

Regarding claims 2 and 13, the combination of Wallentin and Laakso would show wherein the step of setting the energy comprises setting the power at which the power control command is transmitted (see col. 3, lines 43-53), as taught by Laakso.

Regarding claims 4 and 15, the combination of Wallentin and Laakso would show wherein the step of determining how important it is that the transmit power control

command be received comprises determining the difference between a measured quality of the received signal and a reference, wherein the difference indicates how important it is that the power control command be received as taught by Laakso (see col. 7, lines 43-64, col. 9, lines 8-62

Regarding claims 5-9 and 16-20, Wallentin as modified by Laakso meet all limitations as applied above to claims 4 and 15 by determining the difference between a measured quality of the received signal and a reference and carrying out an increase or decrease of the transmit power with a transmit power control command based on the difference with the increase or decrease of the transmission power being a function of the difference, including the difference being substantially zero (see Laakso, col. 11, lines 8-38). Wallentin as modified by Laakso fail to explicitly teach determining whether the difference is substantially zero whereby the decreasing or increasing of the energy at which the transmit power control command is transmitted is based on the difference being substantially zero. However, since Laakso teaches determining differences to indicate the reliability level of the power control commands and using such differences to adjust the transmission power of the power control commands, it would have been obvious to one of ordinary skill in the art to subjectively define the values of the difference at which the power control width would be increased or decreased including a value of approximating or close to zero in order to control unnecessary power consumption while reducing adverse interference to other mobile terminals in the mobile communication network.

Regarding claims 21 and 22 the combination of Wallentin and Laakso would meet wherein the transmit power control is performed for the uplink direction (see Laakso, col. 12, lines 13-62), and the apparatus is included in a base station and in the downlink direction, the apparatus being included in a remote terminal (see Laakso, col. 11, lines 8-59).

4. Claims 3 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over **Wallentin et al and Laakso et al** as applied to claims 1 and 12 above, and further in view of **Baum et al. (6,385,462).**

Regarding claims 3 and 14 Wallentin as modified by Laakso fail to specifically disclose wherein the step of setting the energy comprises adjusting the coding of the transmit power control command.

Baum discloses adaptive power allocation method for providing adaptive power allocation with selective determination of modulation and coding in a communication system, which provides flexibility to modify the adaptive power allocation (see col. 1, lines 7-15). According to Baum a modulation/coding rate is selected for each planned link for the communication system based on signal quality associated the transmit power assigned to the link (see col. 2, lines 1-27), and that by adapting the modulation/coding rate in accordance with signal quality associated with the transmit power, imperfections of power control to increase system capacity can be taken advantage of (see col. 8, lines 19-45).

It would therefore have been obvious to one of ordinary skill in the art to use the selective coding based on signal quality associated with a transmit power with the

system of Wallentin and Laakso for the benefit of providing flexibly adaptive power control while taking advantage of the imperfections of power control to increase system capacity as taught by Baum.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Esteves et al. (US 2001/0012785) discloses a method for determining how much power is allocated each of a plurality of reverse link power control channels.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Appiah whose telephone number is 703 305-4772. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703 305-6739. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703 308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 306-0377.

CA
September 14 2003

CHARLES APPIAH
PRIMARY EXAMINER